

GE 449.3 (Section 01)

Midterm Examination

Tuesday, Oct. 26, 2004

Time Allowed: 90 Minutes

Materials allowed: Text, Notes, EGP Act.

Instructions:

- For choice questions, including True /False, circle the letter, number or word of the *best* choice. Blanks *may* require a single word, several words or a small phrase to complete, including prepositions or articles. (Note: there is *no penalty* for guessing.)
- Any unqualified references to 'Association', 'member' or 'council' are assumed to be of the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS).
- Any unqualified reference to "engineer(s)" can be assumed to mean Professional Engineer(s). Any reference to the "Act" can be assumed to mean the Engineering and Geoscience Professions Act
- Put your name and student number on the cover page; put *only* your student number on all remaining pages.
- Answer all questions. Weighting for each question is indicated in the left margin (Total marks: 100)

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A. True or False Questions (12 questions, 2 marks each)

	Statement	True (T) or False (F)
1	One of the primary objectives of the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) is to ensure to the public that engineering and geoscience work in Saskatchewan is conducted by persons competent to do the work.	T
2	APEGS allows all registered members to offer their services as consultants.	F
3	According the current Engineering and Geoscience Professions Act, the term "Engineer" cannot be used under any circumstances by a company or person who is not a licensed member of the Association.	T
4	A graduate engineer who has worked under the direct supervision of a senior engineer for four years or more may call himself/herself a P.Eng. in Saskatchewan.	F
5	After a person writes and passes the Professional Practice Examination, he or she may offer professional services to the public without additional authorization from APEGS.	F
6	A registered member of the Association may seal drawings not prepared under his or her supervision, provided he or she has personally checked the drawings.	F X
7	As far as work is concerned, a professional Engineer's or Geoscientist's first responsibility is to the employer. <small>to the Safety of Public</small>	F
8	Members of the armed services stationed in Saskatchewan are not subject to provisions of the <i>The Engineering and Geosciences Professions Act</i> when undertaking engineering activities as part of their military duties.	T
9	Principles and responsibilities contained in the Code of Ethics for engineers and geoscientists in Saskatchewan are ethical obligations only, an engineer or geoscientist can choose to adjust them to meet his/her own moral standards as there is no legal responsibility arising from them	F
10	An engineer employed by a manufacturing company need not be concerned about adequate financial return to the company because it is not his/her responsibility.	F
11	Since APEGS has the ability to discipline only its members, "if I don't join the Association, I can practice engineering and the Association cannot interfere."	F
12	APEGS discipline process has no legal binding authority before the courts.	F

(21)

0 B. Study the phrases in the right column and select the *letter* for term in the left column for which it provides the best definition: (10 questions, 2 marks each)

Term	Phrase	Answer
a Virtues	an act is right if it produces the most good for the most people	f
b Engineering as experiments	Right actions are commanded by God; wrong actions are forbidden by God	j
c Voluntary risk	Knowledge of material and sufficient information to make informed decisions	e
d Professional occupations	Requires sophisticated knowledge, group commitment to public good and self regulation	d
e Informed consent	what's acceptable depends on local laws and customs	h
f Act Utilitarianism	right actions follow from a list of duties	i
g Rights Ethics	duties follow from people's rights	g
h Ethical Relativism	Partial ignorance, uncertain outcomes, knowledge of the past and monitoring	b
i Duty Ethics	Engaging in a potentially dangerous sport	c
j Divine Command Ethics	Desirable features of character	a
k Virtue Ethics		
l Moral dilemmas		

31 C. Filling the blanks with appropriate word(s). (15) (20)

3 1) Two main characteristics that contribute to a person's trustworthiness are honesty and competence. One other characteristic that a professional can develop and demonstrate to help build the public's trust is reliability.

3 2) There are generally 3 progressive "levels" used to describe human moral development; summarize each one briefly:

a) Pre conventional - selfish, self serving

b) conventional - do as others do, accept norms of group.

c) Post-conventional - not tied to self interest, follow a set of principles concerning rights & the good

2 3) The member of the Provincial Legislative Assembly who is responsible for the Engineering and Geoscience Professions Act is the Minister of Justice.

3 4) For an identifiable subject, the notion of "informed consent" or "valid consent" requires that the following conditions be met:

- Is given voluntarily,
- Is based on knowledge,
- Is given by a competent person or by a proxy group that represents the person's interests, concerns, & exposure to risks.

2 5) People are generally willing to assume a higher level of personal risk if they feel that they have complete control of the decision.

2 6) In addition to the knowledge regarding product failures gained through experience, Safety factor is commonly used to predict safety performance for new products.

2 7) It is virtually impossible to eliminate all risk no matter how thorough or complex the design might be. Where there is a risk of fatality due to a failure, a design concept known as Safe exit should be used whenever possible to minimize the risk to potential victims.

2 8) Collegiality ("shared power and authority vested amongst colleagues") is considered an important virtue for engineers.

3 9) List three reasons why a "professional carpet-cleaner" does not satisfy the generally accepted definition of a learned professional:

- Does not require sophisticated skills *> No use of judgment, nor the exercise of discretion*
- Does not have formal education,
- Does not set standards for admission to the profession *✓*

6 10) Moral autonomy can be described as:

- exercise a right without interference from others
- to not participate or condone unethical activity *✓*
- to protect the public from serious risk or harm.

25 D. Scott Bennett is the engineer assigned to deal with vendors who supply needed parts to the Upscale Company. Larry Newman, sales representative from one of Upscale's regular vendors, plays in the same golf league as Scott. One evening they go off in the same foursome. Sometime during the round Scott mentions that he is really looking forward to vacationing in Florida next month. Larry says his uncle owns a condo in Florida that he rents out during the months he and his family are up north. Larry offers to see if the condo

is available next month -- assuring Scott that the rental cost would be quite moderate. The next day Larry tells Scott he can rent his uncle's condo for \$100 a week. "My uncle," Larry says, "gets nervous when he rents to total strangers. He likes to have reliable people stay in his condo; the condo is paid for, and my uncle isn't interested in making money on it -- he just wants a little help meeting basic operating expenses and the taxes." Scott accepts the offer and begins making plans for his vacation. Just before leaving, an Upscale vice president sends out a new policy statement that says, among other things: "Accepting incentives from vendors is strictly prohibited".

- a) Give suggestions to Scott for what he should do now and also answer the following questions.
- b) What other factors not stated in this case may have an influence on the appropriate decision?
- c) What conditions would have to be met to make it acceptable for Scott to take the condo offer? What action could Scott take to modify the circumstances so that it might be an acceptable option for him?
- d) What conditions would definitely make it *unacceptable* for Scott to take the condo offer?

GOOD LUCK!